

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously presented) A method of controlling a diode laser device which is operable to receive a control signal and to output an optical signal when the control signal exceeds a threshold value, the method comprising acts of:

supplying, to the diode laser device as the control signal and at a predetermined turn-on time, a write bias signal having a value which exceeds the threshold value, wherein the threshold value is a lasing threshold for the diode laser device, and

supplying to the diode laser device, as the control signal and at a predefined time before the predetermined turn-on time, a pre-bias signal, which has a magnitude that varies, is less than the threshold value and extends for a time period to immediately before the write bias signal,

wherein the predefined time, magnitude, and time period of the pre-bias signal are selected to tune an output power profile of the output optical signal to a desired profile.

2. (Previously presented) The method as claimed in claim 1, wherein

the pre-bias signal comprises a series of pre-bias pulses, having respective predefined times, magnitudes and extents, which are selected to tune the output optical signal to have a desired power profile.

3. (Previously presented) The method as claimed in claim 1, wherein the pre-bias signal is a stepped value.

4. (Previously presented) The method as claimed in claim 1, wherein the predetermined turn-on time occurs simultaneously with a clock signal.

5. (Previously presented) The method as claimed in claim 1, comprising an act of modifying the predetermined turn-on time based on a required output power profile of the output optical signal.

6. (Previously presented) The method as claimed in claim 1, comprising an act of modifying at least one of the predefined time, magnitude, and time period of the pre-bias signal for tuning a position of the output optical signal to coincide with a channel bit clock of an optical recording system.

7. (Previously presented) A method of controlling a diode laser device in an optical system, the system including a laser diode device a controller, wherein the laser diode device is operable to receive a control signal from the controller and to output an optical signal when the control signal exceeds a threshold value, the method comprising acts of:

supplying, to the diode laser device as the control signal and at a predetermined turn-on time, a write bias signal having a value which exceeds the threshold value, wherein the threshold value is a lasing threshold for the diode laser device; and

supplying to the diode laser device, as the control signal and at a predefined time before the predetermined turn-on time, a pre-bias signal, which has a magnitude that varies, is less than the threshold value and extends for a time period to immediately before the write bias signal,

wherein the predefined time, magnitude, and time period of the pre-bias signal are selected to tune an output power profile of the output optical signal to a desired profile.

8. (Previously presented) The method as claimed in claim 7, wherein

the pre-bias signal comprises a series of pre-bias pulses, having respective predefined times, magnitudes and extents, which are selected to tune the output optical signal to have a desired power profile.

9. (Previously presented) The method as claimed in claim 7, wherein the pre-bias signal is a stepped value.

10. (Previously presented) The method as claimed in claim 7, wherein the predetermined turn-on time occurs simultaneously with a clock signal.

11. (Previously presented) The method as claimed in claim 7, comprising an act of modifying the predetermined turn-on time based on a required output power profile of the output optical signal.

12. (Previously presented) The method as claimed in claim 7, comprising an act of modifying at least one of the predefined time, magnitude, and time period of the pre-bias signal for tuning a position of the output optical signal to coincide with a channel bit clock of an optical recording system.

13. (Previously presented) An optical system comprising,

a controller operable to output a control signal; and

a laser diode device operable to receive a control signal from the controller, and to output an optical signal when the control signal exceeds a threshold value, wherein the controller is operable to output to the laser diode device, as the control signal and at a predetermined turn-on time, a write bias signal having a value which exceeds the threshold value to the laser diode device, wherein the threshold value is a lasing threshold for the diode laser device, and

wherein the controller is operable to output to the laser diode device, as the control signal and before the predetermined turn-on time, a pre-bias signal to the laser diode device, which pre-bias signal has a magnitude that varies, is less than the threshold value and extends for a time period to immediately before the write bias signal,

wherein the predefined time, magnitude, and time period of the pre-bias signal are selected to tune an output power profile of the output optical signal to a desired profile.

14. (Previously presented) The optical system as claimed in claim 13, wherein the controller is operable to supply a pre-bias signal comprising a series of pre-bias pulses, having respective predefined times, magnitudes and extents, which are selected to tune the output optical signal to have a desired power profile.

15. (Previously presented) The optical system as claimed in claim 13, wherein the controller is operable to supply a multi-valued pre-bias signal to the laser diode device comprising a combination of pre-pulses having temporally varying magnitudes.

16. (Previously presented) The optical system as claimed in claim 13, wherein the controller is operable to output to the laser diode device as the control signal and before the predetermined turn-on time, a pre-bias signal, which has a value less than the threshold value, and precedes a clock signal of the system.

17. (Previously presented) The optical system as claimed in claim 13, wherein the controller is operable to output to the laser diode device as the control signal and before the predetermined turn-on time, a pre-bias signal which has a value less than the threshold

value, wherein the controller is operable to determine the predetermined turn-on time by a required output power profile of the output optical signal.

18. (Previously presented) The optical system as claimed in claim 13, wherein the controller is operable to output to the laser diode device as the control signal and before the predetermined turn-on time, a pre-bias signal which has a value less than the threshold value, wherein the controller is operable to determine the value of the pre-bias signal by a required output power profile of the output optical signal.

19. (Previously presented) The method as claimed in claim 1, further comprising an act of modifying values of the predefined time, magnitude, and time period of the pre-bias signal for tuning the output power profile of the output optical signal.

20. (Previously presented) The method as claimed in claim 7, further comprising an act of modifying values of the predefined time, magnitude, and time period of the pre-bias signal for tuning the output power profile of the output optical signal.